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Joseph Weathered

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT : Richard GATELY

SERIAL NO. : 10/634,050

FILED : August 5, 2003

FOR : Gas Flow Control Systems

GROUP ART UNIT : 3746

EXAMINER : N/A

RECEIVED

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TECHNOLOGY CENTER R3700

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Commissioner for Patents  
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TRANSMITTAL OF CERTIFIED COPY  
OF FOREIGN PATENT APPLICATION

S I R:

Enclosed herewith please find Certified Copies of British Patent Application Number 0304310.6, filed February 26, 2003, and British Patent Application Number 0219552.7, filed August 22, 2002 upon which claims for priority have been made.



NEW YORK

100 N. 3rd St.

Philadelphia, Pa.

The Commissioner is authorized to charge any additional fees due in connection with this communication, and to credit any overpayment, to Deposit Account No. 04-0838. A copy of this Request is enclosed for deposit account charging purposes.

Respectfully submitted,

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INVESTOR IN PEOPLE

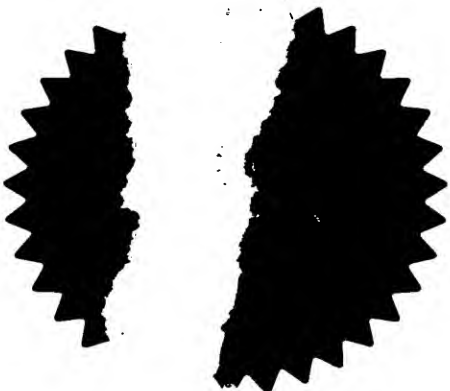
The Patent Office  
Concept House  
Cardiff Road  
Newport  
South Wales  
NP10 8QQ

I, the undersigned, being an officer duly authorised in accordance with Section 74(1) and (4) of the Deregulation & Contracting Out Act 1994, to sign and issue certificates on behalf of the Comptroller-General, hereby certify that annexed hereto is a true copy of the documents as originally filed in connection with the patent application identified therein.

In accordance with the Patents (Companies Re-registration) Rules 1982, if a company named in this certificate and any accompanying documents has re-registered under the Companies Act 1980 with the same name as that with which it was registered immediately before re-registration save for the substitution as, or inclusion as, the last part of the name of the words "public limited company" or their equivalents in Welsh, references to the name of the company in this certificate and any accompanying documents shall be treated as references to the name with which it is so re-registered.

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Signed

Dated 24 July 2003



**Patents Form 1/77**Patents Act 1977  
(Rule 16)26FEB03 E787812-1 002841  
P01/7700 0.00-0304310.6**1/77****THE PATENT OFFICE**  
**A****26 FEB 2003****Request for grant of a patent**

(See the notes on the back of this form. You can also get an explanatory leaflet from the Patent Office to help you filling in this form)

**NEWPORT****The Patent Office**Cardiff Road  
Newport  
South Wales  
NP10 8QQ**1. Your reference**

A10837GB - WL

**2. Patent application number**

(The Patent Office will fill in this part)

**26 FEB 2003****0304310.6****3. Full name, address and postcode of the or of each applicant** (underline all surnames)GATLEY, Richard  
The Bruff Business Centre  
Bushbank  
Suckley,  
Worcestershire, WR6 5DR.

Patents ADP number (if you know it)

0844 9746001

If the applicant is a corporate body, give the country/state of its incorporation

**4. Title of the invention**

Airflow Control Systems

**5. Name of your agent** (if you have one)

Forrester Ketley &amp; Co.

"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)

Chamberlain House  
Paradise Place  
Birmingham  
B3 3HP

Patents ADP number (if you know it)

133005 ✓

**6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and (if you know it) the or each application number**

Country

Priority application number  
(if you know it)Date of filing  
(day / month / year)**7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application**

Number of earlier application

Date of filing  
(day / month / year)**8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer 'Yes' if:**

- a) any applicant named in part 3 is not an inventor, or
  - b) there is an inventor who is not named as an applicant, or
  - c) any named applicant is a corporate body.
- See note (d))

No

## Patents Form 1/77

9. Enter the number of sheets for any of the following items you are filing with this form. Do not count copies of the same document

Continuation sheets of this form	-
Description	2 /
Claim(s)	-
Abstract	-
Drawing(s)	-

CF

10. If you are also filing any of the following, state how many against each item.

Priority documents	-
Translations of priority documents	-
Statement of inventorship and right to grant of a patent (Patents Form 7/77)	-
Request for preliminary examination and search (Patents Form 9/77)	-
Request for substantive examination (Patents Form 10/77)	-
Any other documents (please specify)	-

11.

I/We request the grant of a patent on the basis of this application.

Signature

Date

Forrester Ketley & Co.

25 February 2003

12. Name and daytime telephone number of person to contact in the United Kingdom

William Lally  
0121 236 0484

### Warning

After an application for a patent has been filed, the Comptroller of the Patent Office will consider whether publication or communication of the invention should be prohibited or restricted under Section 22 of the Patents Act 1977. You will be informed if it is necessary to prohibit or restrict your invention in this way. Furthermore, if you live in the United Kingdom, Section 23 of the Patents Act 1977 stops you from applying for a patent abroad without first getting written permission from the Patent Office unless an application has been filed at least 6 weeks beforehand in the United Kingdom for a patent for the same invention and either no direction prohibiting publication or communication has been given, or any such direction has been revoked.

### Notes

- a) If you need help to fill in this form or you have any questions, please contact the Patent Office on 08459 500505.
- b) Write your answers in capital letters using black ink or you may type them.
- c) If there is not enough space for all the relevant details on any part of this form, please continue on a separate sheet of paper and write "see continuation sheet" in the relevant part(s). Any continuation sheet should be attached to this form.
- d) If you have answered 'Yes' Patents Form 7/77 will need to be filed.
- e) Once you have filled in the form you must remember to sign and date it.
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PATENTS ACT 1977

A10837GB - WL

Title: Airflow Control Systems

Description of Invention

5

This invention is concerned with improvements relating to airflow control systems, and is an improvement in or modification of the invention the subject of my co-pending application 0219552.7, the contents of which are deemed to be included herein.

10

In the specification of my above mentioned co-pending application there is described an air pressure stabiliser comprising a pivot mechanism for mounting across an opening, to provide a pivot axis extending across the opening, and a control member arranged to be mounted on the pivot mechanism thereby to be rotatable about the pivot axis for movement between a closed position in which it substantially closes the opening, and an open position, characterised in that the stabiliser further comprises a pressure sensor arranged to sense the pressure on one side of the control member, drive means which is arranged in use to engage with the pivot mechanism, and a controller, which in use activates the drive means depending upon the pressure sensed.

20

The air pressure stabiliser above defined is for example used in the maintenance of an environmental pressure slightly above atmospheric pressure, such as in a surgically clean environment, to prevent possibly contaminated air from flowing into the environment.

25 However, I have appreciated that the invention the subject of my co-pending application has broader application, and may be used to advantage in the provision of a gas flow at a constant rate, or at a desirable variable rate.

Thus, the pressure drop across the control member may be used to obtain a figure which is functional of the flow rate through the opening.

The functionality which establishes the relationship between the flow rate and the pressure differential may be calculated or established empirically, as may the angle at which the control member extends to obtain a desired flow rate with a specified pressure differential. In this manner, by utilising the drive  
5 means to cause the control member to adopt a position dependant upon the pressure differential sensed, a desired flow rate through the opening may be obtained.

Specifically, the control member will respond to a reduction in the pressure differential sensed to cause the control member to open further, to  
10 maintain the desired flow rate, or in a closing direction, should the pressure differential increase, indicating a higher flow rate.

If desired, the pressure sensor may comprise two pressure responsive devices, one arranged on either side of the control member, providing outputs which may be subtracted to provide a pressure differential signal.  
15 Alternatively, a single device may be utilised, such as a diaphragm, opposite sides of which being subjected to the pressure from the two sides of the flow control member.

A particular use for a control of this kind is the supply of a constant flow of air through a clean room.

20 In the present specification "comprises" means "includes or consists of" and "comprising" means "including or consisting of".

The features disclosed in the foregoing description, or the following claims, or the accompanying drawings, expressed in their specific forms or in terms of a means for performing the disclosed function, or a method or process  
25 for attaining the disclosed result, as appropriate, may, separately, or in any combination of such features, be utilised for realising the invention in diverse forms thereof.